

### **Remarks**

Claim 86 has been canceled. Claims 1, 27, 85, 87-89, 91, and 92 are currently amended. Claims 1-85 and 87-108 are pending. Claims 6, 9-11, 21, 25, 31-34, 36, 39, 40, 42-84, and 93-108 have been withdrawn from consideration.

### **Claimed Invention**

The present invention in claim 1 is a controlled release particle which comprises an inorganic matrix comprising channels and a composition disposed in the channels. The disposed composition comprises an organic structure-directing agent and an active agent. The organic structure-directing agent comprises latex particles or surfactant and the active agent comprises pheromone. The purpose of the structure-directing agent is to direct the structure that forms as a condensable inorganic component condenses and, after condensation of the inorganic component occurs, to enable the incorporation of an active agent into the particle.

### **§ 102 Rejections**

Claims 1, 3, 5, 13, 18-20, and 22-24 were rejected under 35 USC § 102(b) as being anticipated by Beck (US 5,057,296).

The Patent Office submits that Beck is seen as providing first, the required surfactant then, in operation, the active agent, thus meeting the instant claim language.

Beck does not disclose pheromones and thus, does not anticipate the invention as now claimed. Accordingly, Applicants respectfully request that the above rejection be withdrawn.

Claims 1, 2, 4, 5, 12-16, 18-20, 22, 24, 26-30, 35, 41, and 85 were rejected under 35 USC § 102(b) as being anticipated by Beall et al. (US 5,730,996). The Patent Office submits that: the instant particles, actives, water and surfactant or latex are known; and that nanoscale particles are also envisioned and channels are 5-100 Å.

Beall et al. do not disclose pheromones and thus, do not anticipate the invention as now claimed. Accordingly, Applicants respectfully request that the above rejection be withdrawn.

**§ 102/103 Rejections**

Claims 1, 2, 4-5, 12-17, 20, 24, 27-30, 35, and 85 were rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over Constantz (US 6,005,162). The Patent Office maintains the rejection of record and submits that various modalities of particles incorporating bioactive agents are taught; surfactants may be incorporated with bioactive; and the particles can be porous.

Applicants respectfully traverses the above rejection with respect to novelty because all of the elements of the claimed invention in claim 1 are not found in the single reference Constantz.

Constantz discloses compositions for producing bone-like materials by combining calcium phosphate with a basic solution of alkali metal hydroxide, acetate, phosphate, or carbonate with water as a “lubricant.” The compositions may also contain calcium fluoride (column 3, line 26); proteins (column 4, lines 25-37 and column 6, lines 17-40); polyols, such as ethylene glycol, propylene glycol, or glycerol (column 5, lines 65-66); grit or gravel (column 6, lines 1-10); water soluble materials such as calcium carbonate, calcium sulfate, sodium chloride, sucrose, glucose, or fructose (column 7, lines 1-4), with the sugars added to enhance porosity ( *Id.* ); inorganic or organic fibrous materials (column 7, lines 60-65); and “water soluble fibers, particles, or the like, in the composite structure, which may also be leached out to provide for porosity” (column 8, lines 14-16). Applicants submit that none of the above recited materials is latex particles or surfactant.

Constantz fails to disclose an organic structure directing agent that comprises latex particles or surfactant. For at least this reason, Constantz cannot anticipate the claimed invention.

Applicants also respectfully traverse the above rejection with respect to obviousness because the Patent Office has not provided a *prima facie* case of obviousness. As discussed above, Constantz fails to teach or suggest every element of the claimed invention since Constantz does not disclose or suggest an organic structure directing agent that comprises latex particles or surfactant. For at least this reason, the above rejection does not provide a *prima facie* case of obviousness.

Accordingly, Applicants respectfully request that the above rejection of claims 1, 2, 4-5, 12-17, 20, 24, 27-30, 35, and 85 be withdrawn.

Claims 1, 2, 4-5, 13-17, 20, 24, 27, 29, 30, 35, and 85 were rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over Lee et al. (US 6,027,742). The Patent Office maintains the rejection of record and submits that the amendments/explanations are seen as requiring latex or surfactant met by the lubricants-lipids, fatty acids and bioactive and incorporation of these components would necessitate disposition in the instantly styled channels, absent any showing by the applicant of absence of such additives within the formed particles of Lee et al.

Lee et al. do not disclose or suggest pheromones and thus, do not anticipate or render obvious the invention as currently claimed. Accordingly, Applicants respectfully request that the above rejection be withdrawn.

Claims 1-5, 12, 13, 18-20, 22, 24, 26-30, 35, 41, and 85 were rejected under 35 USC § 102(b) as being anticipated by or, in the alternative, under 35 USC § 103(a) as obvious over Zhou/Honma. The Patent Office submits that the instant surfactant C16-TMA, active (pc or ChL) within channels of an inorganic particle is disclosed, for use as molecular sieves, for example thus of a micron sized particle, the properties which would provide the instant X-ray diffraction peak; and pore size is 10-1000 Å, metal oxide (sic).

Zhou/Honma do not disclose or suggest pheromones and thus, do not anticipate or render obvious the invention as currently claimed. Accordingly, Applicants respectfully request that the above rejection be withdrawn.

### **§ 103 Rejections**

Claims 1-5, 7, 8, 12, 13, 18-20, 22, 23, 24, 26-30, 37, 38, 41, and 85-92 were rejected under 35 USC § 103(a) as being unpatentable over Zhou/Honma in view of Ohno (US 4,579,779). The Patent Office submits that Zhou/Honma disclose the instant particles, but actives exemplifier (sic) are not pheromones; Ohno provides similar particulate compositions, suitable for incorporation of a variety of actives, including any sex pheromones of the instant size. The Patent Office concludes that it would have obvious to a person of ordinary skill in the art at the time the invention was made desiring to utilize silica particle absorbents, to use that of Zhou/Honma, with actives as desired for intended purpose, such as pheromones shown by Ohno to be deliverable in

silicate structure; motivation to provide the specific active is that of intended use to control insects, a sex pheromone would provide attraction without loss of active in the well controlled structures of Zhou/Honma; the particular sex pheromone, inclusive of the instant homologs of the Ohno example for Tea tortrix control, would be within the purview of one in the art to use, for control of specific insects, under the generic "sex pheromone."

Zhou/Honma disclose phthalocyanine and chlorophyll doped photosensitive mesostructure materials for use in the field of optics and photonics. Other potential applications include solar cells, NO<sub>x</sub> sensors, photocatalysis, and nonlinear-optical devices. Thus, one may conclude the doped mesostructure materials of Zhou/Honma do not controllably release the dopant since doing so would deplete the dopant and render the remaining mesostructure inactive.

Ohno discloses a method of encapsulating volatile organic liquids using small silica particles to surround organic liquid droplets and affect a controlled release of the organic liquid. Ohno mentions pheromones as an example of an encapsulated liquid. Ohno does not disclose or suggest whether the organic liquid is contained in pores of the silica particles.

Applicants respectfully traverse the above rejection because the Patent Office has not provided a *prima facie* case of obviousness. In order for a *prima facie* case of obviousness to exist, the prior art must provide some suggestion or motivation to modify the prior art, a reasonable expectation that the suggested modification would be successful, and teaches or suggests all of the limitations or features of the claimed invention.

In this case, the requisite motivation or incentive to combine the references as suggested by the Patent Office is missing. Such motivation is missing because Zhou/Honma teach dopants within a mesostructure that are permanent, that do not controllably release or leach from the mesostructure. On the other hand, Ohno discloses a combination of a volatile liquid surrounded by silica particles where such combination slowly, controllably releases the volatile liquid. The purpose or goals of the two references are opposite, and thus, one ordinarily skilled in the art wanting to make a controllably releasable particle would have no motivation to combine the references as suggested by the Patent Office.

Further, the disclosure of Zhou/Honma teach away from the claimed invention and would provide one skilled in the art no expectation for successfully making a controlled release particle.

For the reasons stated above, the Patent Office has not provided Applicants with a prima facie case of obviousness. Accordingly, Applicants respectfully request that the above rejection of the claims be withdrawn.

In view of the above amendments and remarks, Applicants respectfully request reconsideration of the claims and submit that the claims are in condition for allowance and request formal notice thereof. Examiner is invited to telephone the undersigned at the number below if Examiner believes that such a call would facilitate prosecution and allowance of the application.

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Date

Respectfully submitted,

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